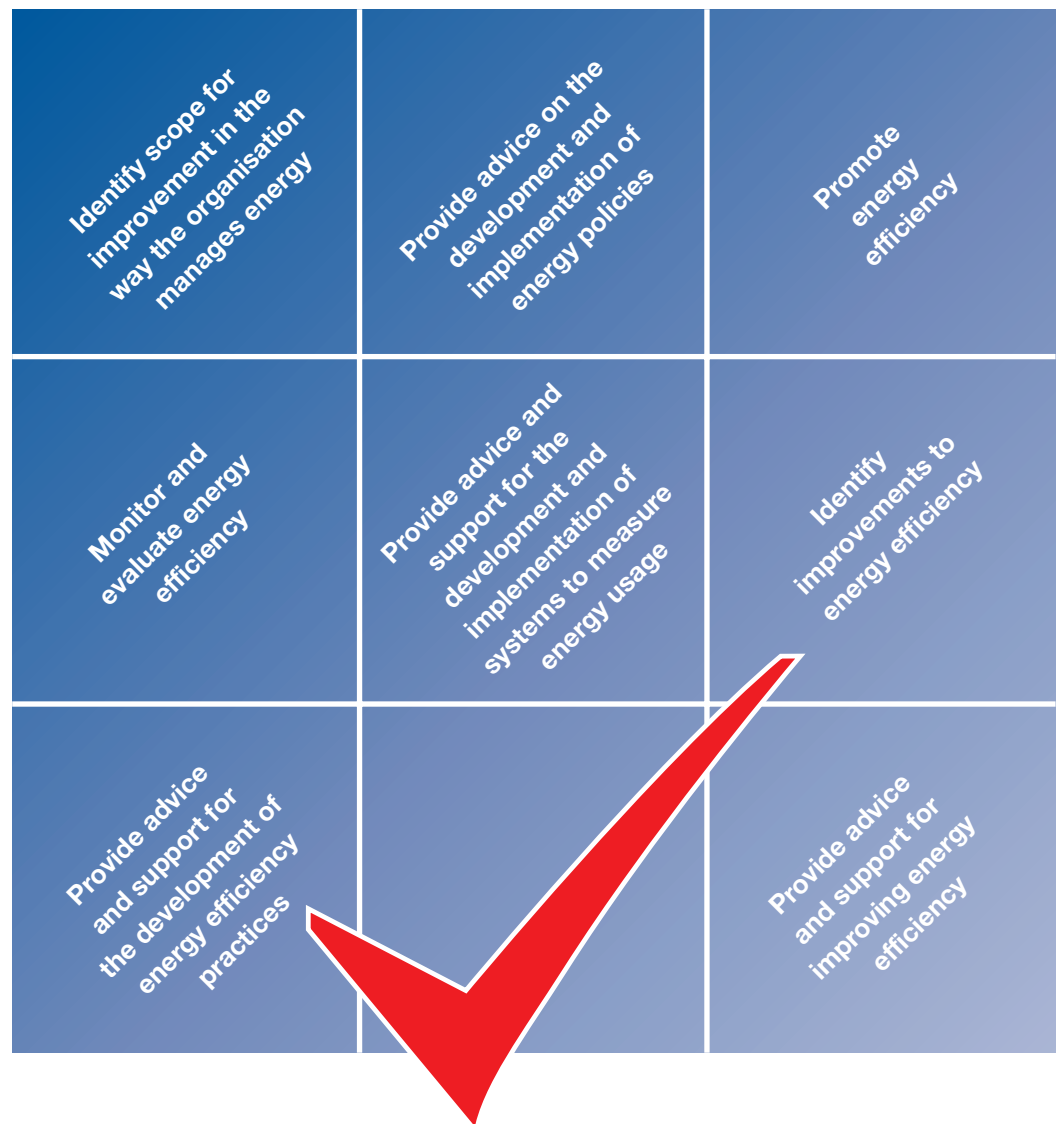


Managing people, managing energy



ENERGY EFFICIENCY

BEST PRACTICE
PROGRAMME

MANAGING PEOPLE, MANAGING ENERGY

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FOREWORD

This Guide is part of a series produced by the Government under the Energy Efficiency Best Practice Programme. The aim of the programme is to advance and spread good practice in energy efficiency by providing independent, authoritative advice and information on good energy efficiency practices. Best Practice is a collaborative programme targeted towards energy users and decision makers in industry, the commercial and public sectors, and building sectors including housing. It comprises four inter-related elements identified by colour-coded strips for easy reference:

- *Energy Consumption Guides*: (blue) energy consumption data to enable users to establish their relative energy efficiency performance;
- *Good Practice Guides*: (red) and *Case Studies*: (mustard) independent information on proven energy-saving measures and techniques and what they are achieving;
- *New Practice projects*: (light green) independent monitoring of new energy efficiency measures which do not yet enjoy a wide market;
- *Future Practice R&D support*: (purple) help to develop tomorrow's energy efficiency good practice measures.

If you would like any further information on this document, or on the Energy Efficiency Best Practice Programme, please contact the Environment and Energy Helpline on 0800 585794. Alternatively, you may contact your local service deliverer – see contact details below.

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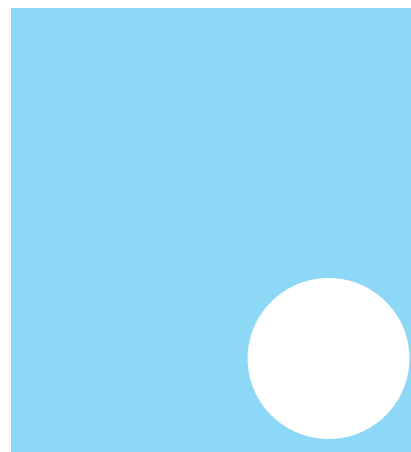
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1

INTRODUCTION

The Standards for Managing Energy

Managing energy is a complex task involving planning, communicating, analysing and supporting. It is not always easy to develop your skills to fulfil all the required roles. The Standards for Managing Energy describe the full roles and functions of the energy management professional.

The Standards were developed in 1995 in consultation with nearly 1,000 energy management professionals in the UK to ensure that they meet the needs of energy managers.

This Good Practice Guide (GPG) is designed to both introduce the Standards and act as a companion to them. It describes the Standards and their applications with examples.

In 1997, the national standards in management were revised to improve their usability. The Standards for Managing Energy are now integrated into the overall suite of management standards and are designated as Key Role E. They have a logical structure that is common to all occupational standards. The Standards are divided into Units of Competence which constitute the second structural level.



THE STANDARDS FOR MANAGING ENERGY

Key Role E: Manage Energy

Manage Energy describes the roles of those managers with special responsibility for ensuring the organisation develops and implements policies for using energy in the most efficient way.

Units of Competence

- E1 Identify the scope for improvement in the way the organisation manages energy
- E2 Provide advice on the development and implementation of energy policies
- E3 Promote energy efficiency
- E4 Monitor and evaluate energy efficiency
- E5 Identify improvements to energy efficiency
- E6 Provide advice and support for the development of energy efficient practices
- E7 Provide advice and support for the development and implementation of systems to measure energy usage
- E8 Provide advice and support for improving energy efficiency

From the Units of Competence titles it is clear that to achieve the national benchmark in managing energy there needs to be effective management of people and technology. The Department of the Environment, Transport and the Regions' (DETR's) Energy Efficiency Best Practice Programme (EEBPP) has an extensive library of publications on the techniques and technologies of energy efficiency. This particular Guide describes how the people aspects of energy management can be integrated into a training and development programme which complies with the national Standards for Managing Energy.

The various Units can be clustered into related functional activities:

Communications:

- by helping to develop plans, policies and strategies; and
- helping to promote plans, policies and strategies.

Identifying Improvements:

- in individual tasks; and
- in the overall business process.

Monitoring and Evaluating:

- by obtaining information; and
- analysing information.

Advising and Supporting:

- so that people become more energy efficient; and
- tasks and processes are optimised for energy efficiency.

How Can You Use the Standards?

The Standards for Managing Energy are available from:

- The Management Charter Initiative (Tel: 0171 872 9000, Fax: 0171 872 9099);
- The Institute of Energy (Tel: 0171 580 7124, Fax: 0171 580 4420).

You can use the Standards at an organisational level and at a personal level. At the organisational level they can be used to carry out a 'skills audit' - to see if all the skills are in place for energy management. They can also be used to monitor the acquisition of those skills. At a personal level they can be used to support your personal development process and Continuing Professional Development (CPD). The primary purpose of this Guide is to assist the individuals using the Standards to improve their energy management skills.

Uses of the Standards: for Individuals

- Providing a system for measuring CPD.
- Providing a checklist for action.
- Identifying career paths.
- Identifying training needs.
- Identifying responsibilities.
- Tying these responsibilities to company objectives or a business plan.
- Gaining a vocational qualification in managing energy.

Uses of the Standards: for Organisations

- Developing an understanding and gaining support for the energy efficiency activity.
- Increasing the organisation's competitiveness, through staff training and reduced energy bills.
- Developing a more positive public image - introducing environmentally aware strategies and activities.
- Defining job descriptions.
- Identifying where the organisation lacks competence in a particular skill area.
- Supporting the Investors in People award and other organisational Standards such as the Eco-Management & Audit Scheme (EMAS) or ISO 14001.

Linking the Standards to EEBPP Publications

This GPG also provides linkages between the Standards and EEBPP material. The Standards are a benchmark of good practice in the effective and efficient management of energy resources. The EEBPP aims to stimulate best practice by developing and disseminating good practice in energy efficiency techniques and technologies. To achieve this the Programme has produced over 800 publications. To assist those working with the Standards, an EEBPP project has provided a matrix which links each Unit of the Standards with recommended EEBPP publications. A chart detailing these linkages can be found at the back of this Guide

2

PERSONAL DEVELOPMENT

UNIT E1	Identify the scope for improvement in the way the organisation manages energy
UNIT E2	Provide advice on the development and implementation of energy policies
UNIT E3	Promote energy efficiency
UNIT E4	Monitor and evaluate energy efficiency
UNIT E5	Identify improvements to energy efficiency
UNIT E6	Provide advice and support for the development of energy efficient practices
UNIT E7	Provide advice and support for the development and implementation of systems to measure energy usage
UNIT E8	Provide advice and support for improving energy efficiency

Personal development is seen as an important activity by most organisations and professional bodies. This is demonstrated by initiatives such as Investors in People and the requirement by most professional bodies for members to undertake CPD. Anyone with an interest in their work will have an interest in their personal development.

The most important outcomes of the personal development process are the acquisition of new or improved skills and the ability to do the job better. The difficulty in many instances is establishing what you do not know or are not skilled in.

The Standards for Managing Energy describe the entire function of energy management. Tested by nearly 1,000 energy management professionals in the UK, the Standards can be used to find out about activities that you are currently not involved in, or to increase your skills in the areas you are working on at present. Either way, you can use the Standards as part of your personal development programme.

Continuing Professional Development and Vocational Qualifications

CPD is the embodiment of the principle that everyone needs to keep up to date with developments in their field of work. Many professional bodies require their members to undertake CPD, typically about 30 hours a year. This activity can range from reading journals to writing and presenting research papers. It might also include private study or attending a specialist training course. To meet CPD requirements, it is not simply a case of 'sign up for 30 hours of CPD-approved training'. To be of real value CPD must meet your personal development needs, and not just 'fill up' the hours required.

National Vocational Qualifications (NVQs) and Scottish Vocational Qualifications (SVQs) are based on the capacity to do a job to a national level of competence rather than achieving academic or theoretical knowledge. In many instances vocational qualifications (VQs) can be seen as a demonstration of on-the-job competence. They are also a measure of an individual's CPD.

The Personal Development Process

So VQs and CPD can be seen as possible measures of the personal development process. What you need to look at now is what is involved in personal development. Remember, embarking on this process does not require you to commit to VQs or to a formal CPD scheme.

The personal development process has seven steps:

1. identifying objectives;
2. identifying improvement areas in managing energy;
3. identifying improvement methods;
4. producing a personal development plan;
5. implementing the plan;
6. reviewing progress;
7. reassessment and replanning (back to step 1).

Throughout this process, the Standards for Managing Energy serve as milestones, targets and benchmarks.

Taking the steps in turn:

1. Identifying Objectives

To start the personal development process you need to identify what it is that **YOU** wish to achieve. If you have attended a time or personal management course you may be familiar with the idea of setting your own mission statement and objectives. This technique is used to provide a structure to the whole process. You need to identify what your drivers are and what you want to achieve. You may find it useful to discuss objectives with your manager or mentor. This will allow you to take into account the needs of both your employer and your job.

Your particular circumstances may dictate some of your objectives. For example, in 1997 the Chartered Institution of Building Services Engineers (CIBSE) required its members to complete 60 hours of CPD over two years, and to submit, each year, a record of CPD carried out and a plan for the following year. If you are working in an organisation that is an Investor in People you may have a VQ attainment target set for you.

Taking a more personal view, you may want to improve your career prospects either by promotion or by changing jobs. By simply doing the job better you may gain promotion. However, if you are looking for something to add to your CV then a formal qualification may be more appropriate.

Spending time identifying your objectives is important because they will have a direct influence on the improvement methods chosen and ultimately on your motivation. Having identified your objectives, take a moment to write them down.

The following page provides a form for you to use in setting your personal objectives.

PERSONAL OBJECTIVES FOR MANAGING ENERGY

Year	Target	Achieved
Continuing Professional Development (CPD)		
VQ		
GOAL 1		
GOAL 2		
GOAL 3		

EXAMPLE:

Year 1997	Target	Achieved
Continuing Professional Development (CPD)	<i>Assisting others to save energy</i>	✓
VQ <i>Energy Management</i>	<i>Level 4</i>	✓
GOAL 1 <i>Make 5% energy savings</i>		✓
GOAL 2 <i>Use the Standards for Managing Energy as a checklist</i>		✓
GOAL 3 <i>Get re-graded</i>		✓

2. Identifying Improvement Areas in Managing Energy

To identify improvement areas you need to 'measure' yourself against a standard or benchmark. For energy management the appropriate benchmark is the Standards for Managing Energy. These have a logical structure that is common to all occupational standards. At the highest level are Key Roles such as 'Manage Energy' or 'Manage People'. These then divide into Units of Competence, which further divide into Elements of Competence. For each Element of Competence there are Performance Criteria, Knowledge and Evidence requirements.

The above can be illustrated by using Element E3.2 from the Standards as an example.

ELEMENT E3.2 Promote the organisation's achievements in energy efficiency

The National Standard

This section provides criteria to assess whether you promote the organisation's achievements in energy efficiency to the National Standard of Competence. It also lists the knowledge and understanding which are essential for effective performance.

Performance criteria

You must ensure that

- I. you accurately evaluate opportunities to create and sustain awareness of energy efficiency outside the organisation
- II. you seize opportunities which effectively promote awareness of energy efficiency, the organisation's achievements and policy
- III. the information you provide on the organisation's achievements is up-to-date and consistent with the organisation's policy
- IV. the way you promote the organisation's energy policy and achievements emphasises how they contribute to its success
- V. you encourage appropriate people to communicate their views and you reply to them effectively

Knowledge requirements

You need to know and understand

Communication

- the range of opportunities available to create and sustain awareness of energy efficiency
- how to identify and evaluate opportunities to create and sustain awareness of energy efficiency outside the organisation
- how to emphasise the contribution which its energy policy and achievements make to the organisation's success
- the range of available presentational techniques and how to use them effectively
- how to encourage feedback and respond to it appropriately

Energy efficiency

- the principal techniques and technologies which support the efficient use of energy

Information handling

- how to check whether information is current

Organisational context

- the organisation's achievements in energy efficiency and how they came about
- the organisation's policies and procedures on the use of energy and on publicising its achievements

Evidence requirements

You must prove that you promote the organisation's achievements in energy efficiency to the National Standard of Competence.

To do this, you must provide evidence to convince your assessor that you consistently meet **all** the performance criteria.

Your evidence must be the result of real work activities undertaken by yourself. Evidence from simulated activities is **not** acceptable for this element.

You must show evidence that you **promote** the organisation's policy and achievements using at least **two** of the following formats

- written
- graphic
- audio visual
- electronic

You must also show evidence that you encourage feedback from at least two of the following types of **appropriate people**

- I. suppliers
- II. customers/service users
- III. special interest groups
- IV. regulatory bodies
- V. the community

You must, however, convince your assessor that you have the necessary knowledge, understanding and skills to be able to perform competently in respect of **all** types of **media** and **appropriate people** listed above.

So how do you measure yourself? One way is to take the comprehensive approach provided in the manual, *CPD in Managing Energy* (available from The Institute of Energy). This looks at the Standards individually by Units and then at the Performance Criteria for all key areas. Another way is to find a 'mentor' with knowledge of the Standards who will help you assess yourself.

A self-assessment approach which leads to a Personal Development Map has been developed for this GPG based on the Elements of Competence.

To start, you should carry out a Personal Development Assessment. For this you need to produce ratings for each of the Elements from three viewpoints: **TARGET, REQUIRED, ACHIEVED**. Ratings are based on a scale of 1 to 5, where 1 is low and 5 is high and significant.

Target

This is the level of skill that you, personally, would like to achieve. For many Elements you will be aiming for 5. However, you might not feel you want to work to that level in others. The choice is yours.

Required

This is the level of skill that is required by the current responsibility of your job. Here you need to think about what your job requires of you. As a result, it is possible that you will have some low ratings.

Achieved

This is the level of skill that you think you are at. This is in some ways the hardest rating to allocate. You have to judge how good you are, and, as this process is for your benefit, any over-estimation of skill will only disadvantage yourself.

Having produced these ratings, you plot them to give your Personal Development Map. By examining the gaps and overlaps on this chart you can draw conclusions about your personal development requirements. For example, if a high proportion of your **ACHIEVED** ratings exceeds your **REQUIRED** ratings this indicates that you need to expand your work responsibility. This may mean seeking promotion or even considering another job.

The size of gap between the **ACHIEVED** and **REQUIRED** ratings gives a clear indication of the level of development required to enable you to do your current job well.

The following pages provide a proforma for you to complete, along with a blank Personal Development Map for you to photocopy. Examples have been included as well. (The charts in these use filled areas to make them clearer - when completing your own you might find a simple coloured line easier to use.) Having completed the Personal Development Assessment form, you may want to use a colleague as a 'sounding board' to see if they agree with your assessment.

PERSONAL DEVELOPMENT ASSESSMENT

	KEY ROLE E	RATING 1 = LOW 5 = HIGH		
		A	B	C
	Element of Competence	Target	Required	Achieved
E1.1	Audit the organisation's performance in the way it manages energy			
E1.2	Identify improvements to the way the organisation manages energy			
E2.1	Provide advice on the development of policies for the use of energy			
E2.2	Recommend strategies to implement energy policies			
E3.1	Promote energy efficiency throughout the organisation			
E3.2	Promote the organisation's achievements in energy efficiency			
E4.1	Establish systems and processes to monitor and evaluate energy usage			
E4.2	Obtain, analyse and record information on energy efficiency performance			
E4.3	Evaluate the organisation's energy efficiency performance			
E5.1	Identify opportunities to improve energy efficiency			
E5.2	Recommend improvements to energy efficiency			
E6.1	Support the development of a culture of energy awareness			
E6.2	Provide advice and support for energy efficient practices			
E7.1	Provide support for the development of systems to measure energy usage			
E7.2	Provide support for the collection, analysis and recording of information on energy usage			
E7.3	Provide advice on trends and developments in energy usage			
E8.1	Encourage involvement in energy efficiency activities			
E8.2	Provide advice on the competences needed to use energy efficiently			
E8.3	Provide advice on the training needed to use energy efficiently			

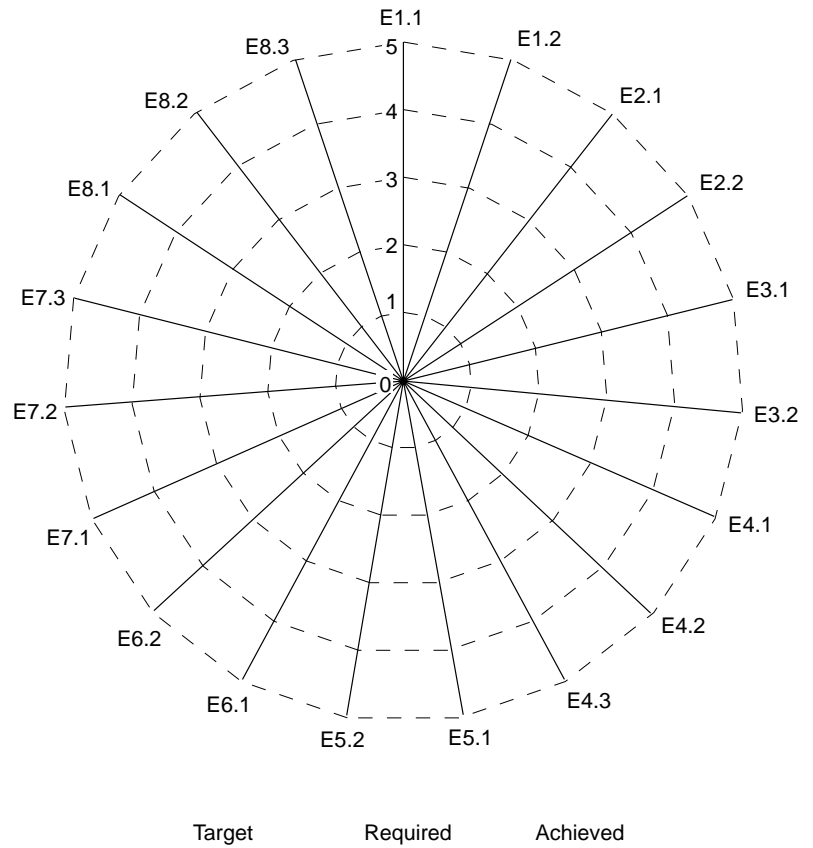
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PERSONAL DEVELOPMENT ASSESSMENT - EXAMPLE

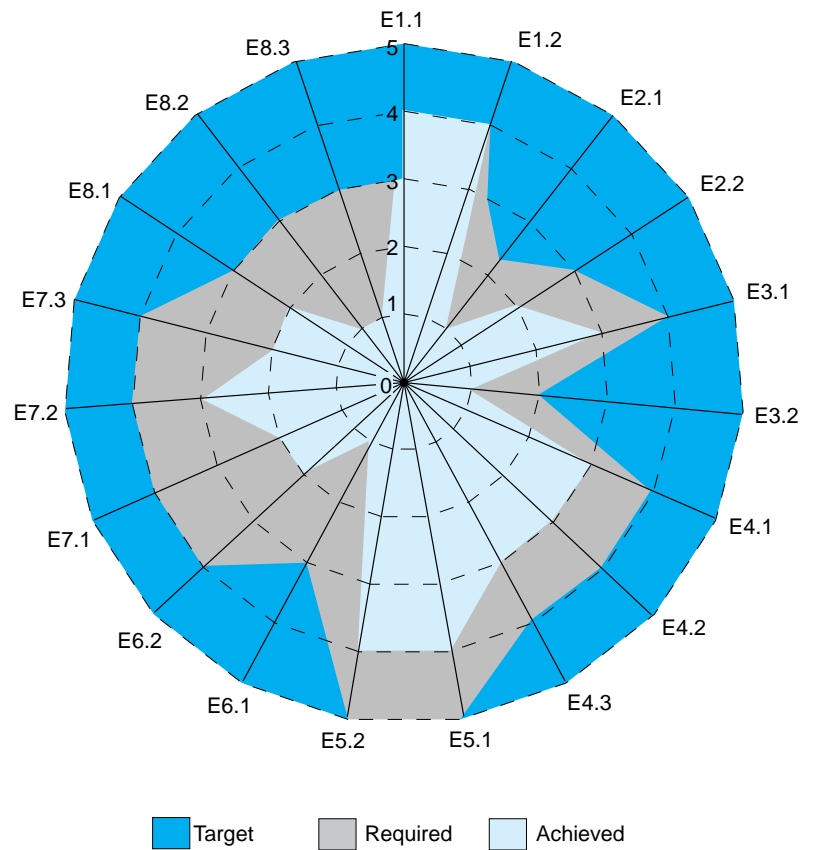
	KEY ROLE E	RATING 1 = LOW 5 = HIGH		
		A	B	C
	Element of Competence	Target	Required	Achieved
E1.1	Audit the organisation's performance in the way it manages energy	5	3	4
E1.2	Identify improvements to the way the organisation manages energy	5	3	4
E2.1	Provide advice on the development of policies for the use of energy	5	2	1
E2.2	Recommend strategies to implement energy policies	5	3	2
E3.1	Promote energy efficiency throughout the organisation	5	4	3
E3.2	Promote the organisation's achievements in energy efficiency	5	2	1
E4.1	Establish systems and processes to monitor and evaluate energy usage	5	4	3
E4.2	Obtain, analyse and record information on energy efficiency performance	5	4	3
E4.3	Evaluate the organisation's energy efficiency performance	5	4	3
E5.1	Identify opportunities to improve energy efficiency	5	5	4
E5.2	Recommend improvements to energy efficiency	5	5	4
E6.1	Support the development of a culture of energy awareness	5	3	1
E6.2	Provide advice and support for energy efficient practices	5	4	2
E7.1	Provide support for the development of systems to measure energy usage	5	4	2
E7.2	Provide support for the collection, analysis and recording of information on energy usage	5	4	3
E7.3	Provide advice on trends and developments in energy usage	5	4	2
E8.1	Encourage involvement in energy efficiency activities	5	3	2
E8.2	Provide advice on the competences needed to use energy efficiently	5	3	1
E8.3	Provide advice on the training needed to use energy efficiently	5	3	1

This chart shows a **TARGET** score of 5 for all Elements of Competence, so clearly the person filling it in is looking for all-round energy management skills to a high level. In looking at the match between **REQUIRED** and **ACHIEVED**, it can be seen that there is wide scope for personal development. At an organisational level, if Elements are given a **TARGET** rating of less than 5 it should be established whether someone else has responsibility for those Elements. If not, it is possible that the organisation is not putting in place all the competences needed to manage energy.

PERSONAL DEVELOPMENT MAP KEY ROLE E



PERSONAL DEVELOPMENT MAP - EXAMPLE KEY ROLE E



3. Identifying Improvement Methods

Having put together your 'shopping list', where are you going to shop? Remember that your development objectives may have a direct influence on the improvement route you choose. It might be that an existing management course operated in-house can meet your needs. If there are technical topics you may have to look for training outside the organisation: Open Learning may be a possible route - for example, the TEMOL¹ training programme offered by The Institute of Energy; perhaps your professional institute offers training under its CPD programme; it may be that you need to follow a structured reading plan, or view appropriate videos; attending EEBPP workshops may provide the necessary training. If your organisation has a training department you should be able to get assistance from them - not only in identifying methods but also, perhaps, with funding to follow particular courses.

One thing is clear - the methods selected will have to suit you and your circumstances. (A comprehensive approach to learning styles is contained in the manual, *CPD in Managing Energy*, available from The Institute of Energy.)

4. Producing A Personal Development Plan

Having identified improvement needs and methods you should be able to produce a development plan. Before taking this further you need to consider two vitally important resources: **time** and **money**. There are several points to take into account:

- i. You must set yourself realistic time targets. If you are working for a VQ you will normally be given an indication of the timescale, typically 12 - 24 months. Do not set yourself too ambitious a target. Try to select 'bite-sized' tasks so you can see progress, rather than trying to do it all in one go and not seeing any satisfactory development.

Examples of time targets might be:

"By this time next year I will have gained a specific VQ."

or,

"Within three months I will have completed the work I need to do for a particular Unit."

- ii. You need to consider a fundamental question concerning the amount of time you invest in personal development:

Do you expect to carry out all your personal development activity in normal working hours, or are you prepared to invest some of your own time?

In practice most people find it necessary to invest some of their own time in personal development. As you are the main beneficiary this is not unreasonable.

The amount of 'work time' and 'free time' required will depend on the improvement methods you are considering. For example, a specialist training course will normally be during working hours. However, structured reading can be carried out at home, on a train, etc. If you have decided to use personal development activity to meet a CPD requirement, then you will already have a target. In addition, the CPD requirement will probably determine the mix of activity.

The nature of your work will have a significant effect on time available for personal development. If you work night-shifts, then a formal training course will normally be out of working hours. You may have a job that does not allow you much latitude with time, or you may be on flexible working hours.

- iii. Money drives many things, including your personal development. There is a wide range of funding options for different developmental requirements:
 - structured reading of library books costs nothing;
 - attendance at a specialist training course may cost £300 - £500 a day;
 - most people look to their employer to pay for courses;
 - there are some employers that will even fund employees attending non-vocational courses;

¹ *Training in Energy Management through Open Learning*

- if your employer calls itself a 'learning organisation' or is an Investor in People, you should find a good infrastructure to support your personal development programme.

Some of your training may be appropriate for external funding in part or whole. For example, your local Training & Enterprise Council, Local Enterprise Company, or Business Link may be prepared to provide part of the funding. At an individual level you may be able to get a Career Development Loan through participating high-street banks.

To summarise, your personal development plan needs to include: objectives; improvement areas and methods; resources; timescales. The actual format of the plan is up to you. Experience shows that time spent writing up a realistic development plan is time well spent.

5. Implementing the Plan

Preparing the plan is an important process. However, it is all wasted if it is not implemented. If you have carried out the planning process fully you will know clearly what you are going to do, how you are going to do it and when you are going to do it. The plan that you have produced is primarily to make things happen. Other uses for it might be as part of a CPD submission, or as evidence for a VQ.

In working through your plan, do think about evidence of your development. This will be essential if you are looking for CPD credits or VQ assessment. Even if you are not planning for a VQ now, evidence that is a year-old, or even two-years-old, may be accepted should you decide on a VQ at a later date. The development of evidence does not mean a significant increase in work. In practice, much evidence is produced just by doing the job. In other cases very little extra work is required. For example, if the course you attend does not give a formal attendance certificate, ask for a letter confirming your attendance.

6. Reviewing Progress

As part of the planning process you should have built in some milestones for review purposes. It is recommended that, as a minimum, you carry out a major annual review, with minor monthly or quarterly progress reviews.

If your organisation operates a performance review or appraisal system you might find it useful to discuss your personal development process as part of your review. In this way you can secure support for what you are doing from your line manager.

7. Reassessment and Replanning

Typically, this will be part of the annual review. At this stage you will have completed the first personal development cycle. You now need to repeat the process. Having done it once you should find it easier. You will also find that you will refine and improve the process because of what you have learnt in getting to where you are.

So what if you feel you have reached your limit and have consequently rated yourself at 5 for all Elements? Well, it is worth remembering that some of the Elements imply an on-going personal development process. Clearly, if you do not continue the development process your actual rating will decline. Having said that, a time will hopefully come when you feel that you have gained a high level of skill in all areas. When you reach this level you will need to institute a 'maintenance programme' and look for new areas in which to develop your personal competence.

The 'Case Study' Examples

To look at the application of the personal development process, two people will be tracked as examples throughout the Guide - JULIE and BRIAN. (At the time of writing, no one has fully completed this process. For this reason our two characters, and their organisations, are fictitious. The situations described, however, are based on real examples). Using Julie and Brian we will illustrate how the ideas in this Guide can be put into practice. Here is some background on the two characters:

JULIE is 25-years-old and works in the head office of a bank located in Edinburgh. The bank employs a total of 9,500 people around the UK in 535 branches and ten regional offices. Julie became the full-time energy manager for the bank a year ago. She works in the property services department reporting to the head of property services. Julie joined the organisation from school with A-Levels, as part of the bank's management recruitment programme. She has gained an SVQ Level 4 in management. The bank is an Investor in People and has also made a commitment to energy



efficiency under the DETR's Making a Corporate Commitment (MACC) campaign. Energy management is a function that has been given to the property services department as it already has a 'premises' responsibility for each of the bank's sites. In planning her development Julie has decided that she wants to gain an SVQ in Managing Energy.

BRIAN is a 45-year-old chartered engineer who works for an engineering company in the Midlands. There are 700 people employed on site, the Midlands site being one of five in the UK. He is a part-time energy manager, as his main job is project engineering. He estimates that he spends, on average, about five hours a week on energy management. He reports to the site engineering manager who in turn reports to the company technical director. As a chartered engineer Brian has a CPD requirement of 30 hours a year. Brian's academic qualification is an honours degree in mechanical engineering. His company is not an Investor in People but does have a training department. Energy management has traditionally been the responsibility of the site engineering department because the department operates the main boiler plant and compressed air systems, as well as being responsible for factory maintenance. In planning his development Brian sees meeting his CPD requirement as a key objective. He would also like to become more involved in environmental management and looks to his development process as a means of achieving this.

The following Sections of this Guide look at specific skill areas that are needed in managing energy. Each Section will put the skills in context, raise questions for your development and show how Brian and Julie deal with their development process.

3

ADVISING AND SUPPORTING

UNIT E2	Provide advice on the development and implementation of energy policies
UNIT E6	Provide advice and support for the development of energy efficient practices
UNIT E7	Provide advice and support for the development and implementation of systems to measure energy usage
UNIT E8	Provide advice and support for improving energy efficiency

Analysis of the Standards shows that, above all else, two skills are essential - advising and supporting. These are inherent in the nature of the function of energy management - in fact in any management function. In many organisations the energy management role is a support function, and to achieve energy savings targets the involvement of others is essential - hence the particular importance of advising and supporting. These overlapping areas are explored in this Section of the Guide.

Giving Advice

Although the emphasis is on giving advice, it is also important that the successful manager is equally capable of getting and taking advice. To give advice successfully you need to consider what the advice is intended to do, who it is for and the best way(s) of delivering it. Clearly, advice to the chief executive will be delivered in a different way to that given to a night security guard.

For advice to be useful to people on the receiving end it must be:

- appropriate;
- understandable;
- useful;
- relevant;
- reliable;
- timely.

Appropriate: You need to focus on the needs of the recipient. Put yourself in their shoes. What are they looking for from you?

Understandable: Advice that cannot be understood has negative value. You may need to 'probe' to find out what the person does understand from your message. It is easy to get it wrong, particularly when you use abbreviations, acronyms and jargon.

Useful: If you are usually busy and overloaded, those you are advising are probably in the same situation. Make their lives easy - give them useful advice! The term

useful means something beneficial, something they can act on. Giving useful advice enhances your status. It means that in the future your advice will be respected as having value.

Relevant: This is about putting the advice in context for the receiver. If it makes sense to the receiving person, he or she is more likely to listen to you. Once they are listening, you may see your advice being put into action. Try putting messages to a quality manager in a quality context. Similarly, do not advise a production director on methods that save energy at the expense of production.

Reliable: It is usually better not to give any advice than to give bad or wrong advice. The quality of advice is very important - if you do not know, or are not sure, then say so and offer to find out. If advice you give is found to be inaccurate, even wrong, the value of any subsequent advice you give will be questioned.

Timely: The advice needs to be delivered at the right time - just when it is needed.

After giving advice, do you follow it up? If your advice has been particularly bad you are very likely to hear about it. But what if it was good, or indifferent? You can only improve your skills in giving advice if you get a response to the advice you are giving. Getting this response can be done formally by using a questionnaire, or informally by chatting to the person concerned. In some cases you may have to get an indirect response - for example, if you are not in a position to chat with the chief executive.

Providing Support

As already mentioned, much of energy management is about getting others to do things. Giving advice is one important element; providing support is another, broader, element. Organisations that are successful in managing energy usually have sustainable energy management programmes. For a programme to be sustainable it needs appropriate support. At an organisational level this support may be provided by accountability, reporting structures, etc. Looking at the people aspects there are a wide range of support activities required. The support needed and the support given will depend on your organisation and your position in it. If you have access to the highest level of management, your support may include making a case for someone at that level. Support may be making sure that people contributing to the programme get recognition. It may be 'lobbying' within the organisation to gain commitment to the programme. Support may also include making resources available either directly or indirectly.

JULIE ran the bank's property services department help-desk before becoming involved in energy management. For this role she had to provide direct support to the 535 branches of the bank. However, she became aware that all the advice she gave was on request, and given over the telephone rather than face to face. To tackle these issues she decided to visit a selection of branches to talk to the people there. This helped her in two ways:

1. She achieved a better understanding of staff needs and was able to provide some proactive advice.
2. She was able to work on developing her face-to-face skills. As she is working towards her SVQ units she decided to prepare a structured interview that could be completed as notes of each meeting and included in her portfolio of evidence.

BRIAN looked back at how he had been working and realised that, often, when asked for advice he did not actually give it. What he would do was 'take over' the problem for the person concerned, try to solve it and implement the solution for them. In doing this he was overloading himself with work. He was also creating a climate where people felt that if Brian took responsibility they no longer had to. Brian decided there was little he could do about the things he had already taken on. What he needed to address was continuing to take on more work. This posed a problem because many people no longer asked for advice - they simply handed over the problem. Realising this, Brian talked to one of the company's training advisors. He suggested that Brian went on a coaching-skills course which the training department would pay for. In addition, Brian would get an attendance certificate that he could use towards his CPD target.



4

MANAGING ENERGY AND PEOPLE

UNIT E1	Identify the scope for improvement in the way the organisation manages energy
UNIT E2	Provide advice on the development and implementation of energy policies
UNIT E6	Provide advice and support for the development of energy efficient practices
UNIT E8	Provide advice and support for improving energy efficiency

Having looked at the key skills of advising and supporting, the Standards also cover some of the more energy-specific people skills required. The first of these is an understanding of the interaction of people, energy policy and energy efficiency.

Reviewing the Organisation

ORGANISATIONS are made up of PEOPLE. Organisations influence the behaviour of these people and are, in turn, shaped by them. To manage energy effectively, you will need to look at the organisation itself, as well as the people within it.

Units E1 and E2 of the Standards outline the need to plan and review the energy policy of your organisation. This type of activity can be assisted by the following EEBPP publications: General Information Reports (GIRs) 12 and 13² on the organisational aspects of energy management, and GPG 167, *Organisational aspects of energy management: a self-assessment manual for managers* which is based on an energy management matrix introduced in GIRs 12 and 13.

Along with the aspects covered by the matrix, you need to look at other enabling, or disabling, aspects of the organisation. For example, if your organisation is an Investor in People it already has a commitment to training. If it has also signed up to the MACC campaign it has a commitment to energy efficiency. What you may need to do is bring these commitments together.

If the organisation has a total quality (TQ) culture, you may find GPG 169, *Putting energy into total quality*, of use to you in bringing energy and total quality together.

You will have to be prepared to do some historical work. It is vital that you have an in-depth understanding of how the organisation has got to where it is and what your predecessors have done.

You also need to identify clearly the driving forces in both the organisation and its individual departments. These are important because they provide the reference framework for individuals to judge issues within the organisation or department. Also remember, the driving forces for a particular department may not be the same as those for the organisation. For example, the organisation may be looking at cost reduction, while the department is driven by staying in existence.

² General Information Report 12, *Organisational aspects of energy management*.
General Information Report 13, *Reviewing energy management*.

The People Aspects of Change and Improvement

Change is one constant in any workplace - either your organisation is changing or the external business environment is changing. Either way there will be impacts on the way you and your colleagues work. Energy efficiency is change - and managing energy, for many organisations, is change management.

Change is both exciting and frightening. You will find that people are more receptive to change if they feel that they have some say in its process. This is especially true if changes are made to 'lifestyles'. Energy efficiency is a lifestyle change and you will need to make sure that changes are not only relevant to the organisation but that they are explained to everyone in a manner that encourages participation.

People feel threatened by change when it is imposed with little opportunity for them to debate and discuss the issues. Negative reactions to change can range from disgruntlement to active sabotage which will probably mean the failure of any energy efficiency programme.

To make a change to sustainable energy efficiency, you will need to make it a part of everyone's lives. Embedding energy efficiency into every person's job is a starting point. You will need to think of ways of making energy efficiency practices worthwhile to everyone. The organisation's energy policy will need to take these points into account.

Consulting people who will be affected by the change is also a good way to get their commitment. For example, plans to install a new, more efficient boiler plant should include relevant people aspects. For the users of the hot water there might be an interruption to supply and thereafter no real change - although this is perhaps an opportunity to pass along a water saving message. For the boilerhouse team, however, the impacts may be quite substantial. To them this could represent a major change - particularly if it was from a coal-fired plant to a gas-fired plant. You need to consider involving the team in the change process so that they work with the changes. You will also need to consider whether they will need new skills, and plan the necessary training accordingly. By managing the people side of the project, as well as the technical side, you should maximise the returns on the investment in every sense.

Strategic Planning and Implementation

From the discussions above it is clear that energy policy needs to be part of the organisation's strategy. However, the degree of your involvement in strategic energy management - that is, assisting in developing energy policy - will depend on the impact you have created from previous achievements, as well as the support from senior managers.

Policy

One of the more obvious 'products' of a strategic approach could be an energy policy. In practice this can range from a mission statement through to detailed energy efficiency initiatives, or it can be a commitment to energy efficiency as a corporate goal.

It is interesting that in some organisations, mission statements and policy documents are viewed as 'not worth the paper they are printed on'. Such a fate may also befall the energy policy unless it meets the needs of both the organisation and the workforce.

For an energy policy to make sense to the organisation there should be a clear idea of what it is supposed to do. For example:

- Is the policy for external use? (example: better image).
- Is it a practical tool aimed to rally the workforce into saving energy? (example: first stage in setting up an energy-savings campaign).
- Is it part of the strategic objective? (energy efficiency = cost savings = increased competitiveness).

All of these are relevant, but you should explore with your colleagues which type of message is the most suitable for your organisation.

If you have an existing policy statement, how old is it? Does it need revision in light of developments? How does it 'sit' with any environmental policy? Should an existing energy policy become part of a new environmental policy? Has a new environmental policy effectively superseded the energy policy?

Strategy

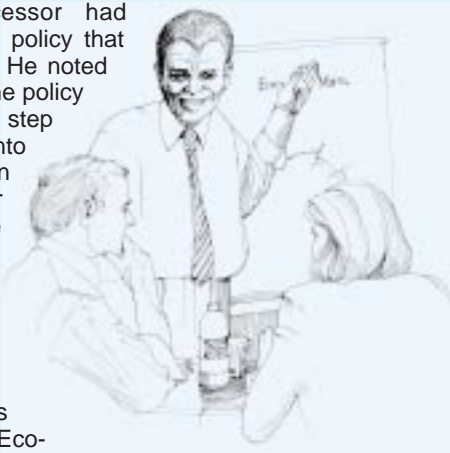
A strategy translates the somewhat vague principles from a 'policy' to a more structured 'big picture'.

Your involvement in the development of an energy strategy will depend on your role in the organisation and the maturity of the organisation's programme. Since we live in a world that is changing, it is inevitable that any existing strategy will need to be adjusted or revised as time passes. Consider the changes that have occurred in the energy supply industry - any organisation that has not taken account of energy purchasing options in its strategy will be cost-disadvantaged.

You may have a role in advising others to revise a strategy, or you may be charged with the formulation of a strategy. Whatever your role in strategic planning you will also have a role in either implementation or the tactical aspects of achieving the organisation's energy objectives. An important part of implementing the organisation's strategy will be the ability to translate strategic plans into action. Essential skills will be advising and supporting.

JULIE realised that written procedures and policies are essential in a financial institution if things are to happen. She discovered that the bank had, in effect, used the MACC campaign declaration as its policy statement. In visiting branches she talked about this statement and found that it was not really owned by people. She had decided to use GPG 167, *Organisational aspects of energy management: a self-assessment manual for managers*, to plan her strategic review. As the GPG provides a workbook to be completed, she planned it as an inclusion in her portfolio of evidence for her SVQ. However, she sometimes found it difficult to fit the bank into some of the generic areas of the matrix. For example, she considered that the bank had the active commitment of top management, but she was unhappy that a formal policy had not been drafted. This resulted in her adapting some of the elements of GPG 167 to meet her particular needs.

BRIAN found that his predecessor had produced a comprehensive energy policy that extended to over ten pages of A4. He noted that many of the items included in the policy were actually procedures. His first step was to split the original policy into policy and procedures. He then talked with the quality manager about inserting appropriate procedures into existing ISO 9000 quality assurance procedures. He also talked to the purchasing department about adding energy components to purchasing procedures. Shortly after this he learnt that the company was considering EMAS, the European Eco-Management and Audit Scheme, at one of the other sites. (EMAS certification is on an individual site basis.) This made him question how it would affect his site. As a result, Brian became a founder member of an environmental policy team. The outcome was an environmental policy that covered energy efficiency.



5

DEVELOPING A CULTURE FOR ENERGY EFFICIENCY

UNIT E3 Promote energy efficiency

UNIT E5 Identify improvements to energy efficiency

UNIT E6 Provide advice and support for the development of energy efficient practices

UNIT E8 Provide advice and support for improving energy efficiency

Maximum returns from energy management are most often found in organisations where the culture supports and encourages energy efficiency. In turn, energy efficiency becomes sustainable when it becomes part of the organisation's culture. Accordingly, developing energy efficiency as part of the culture is a key task for successful energy management programmes.

Culture is a mix of attitudes, beliefs and behaviours. For any organisation there will be an overall culture. The development of the culture may have been managed or it may have simply grown over time. Think of three organisations that you admire. Think about the culture of those organisations. Now do the same for three organisations that you do not admire. By now you should have gained some valuable insight into the effects of culture.

Understanding Culture

The starting point is recognising that a culture already exists. This culture will have been developed, managed or unmanaged, over the years and will reflect the various influences on the organisation. The problem when introducing change, such as energy efficiency, or new ideas is that the culture may not support them - in some cases it may actively work against change.

Understanding how culture works in your organisation is critical. Ideas that are not consistent with the culture will very often fail; those that build on it stand a better chance of succeeding. Getting energy efficiency to be a part of the culture requires an understanding of what the culture is. This can be achieved by auditing the existing culture. Once you understand what your organisation's culture is and how it works, you can use it as leverage to introduce energy efficiency.

Auditing the Culture

Before conducting an audit, find out what other surveys have been carried out - for example, quality, attitude and health and safety. Many large organisations have regular surveys of the workforce. Do not just rely on the published results. Enquire about the information that was not published - it may provide a valuable insight. If your organisation does have regular workforce surveys, try to get energy questions introduced.

If you have to carry out your own survey, think about how you would do it. If you rely on face-to-face interviews you may hear what you want to hear. Consider using a third party - either internal or external. If you are going to use a questionnaire, test it out with a small sample. Make the questionnaire understandable and easy to complete. Consider giving a 'prize' to the first ten returned. In some cases the survey will confirm what you already thought. It may also have value in raising the awareness of energy efficiency.

Getting Ownership and Commitment

Getting ownership and commitment to energy efficiency is a task that has to be carried out at all levels in the organisation - from chief executive to individual employee. As a task it is often more than a single person can achieve. It is said that people will not take responsibility for solving a problem unless they have ownership of the problem.

So, getting ownership is a critical factor for success.

You will need to get commitment at the highest level - often this is not difficult. For example, many chief executives have signed up to the MACC campaign. What can be difficult is getting ownership and commitment at middle-management levels. To do this you will need to influence these levels of management both directly and indirectly.

Influencing Culture

This is the leverage element; essentially it is simply finding out what drives your organisation's culture and then fitting energy efficiency to one of the drivers.

One method of influencing culture is the way in which you act. Acting as a positive role model can influence others, thereby having an overall effect on culture. Be aware, though, that it is easy to go over the top about energy efficiency. You may lose credibility and have minimal effect if issues such as cost savings, environmental savings, better working environment, increased competitiveness and personal pride, are constantly brought to the workforce's attention.

Another tack is to 'lock' into the values of the organisation. In some organisations it is easy to link into the set of values that underlie the culture:

The Body Shop has a clear set of environmental values into which energy efficiency fits easily. The task at The Body Shop is to give motivated people the awareness and knowledge they need to be energy efficient. (Further details can be found in Good Practice Case Study (GPCS) 264, *A corporate approach to energy and the environment*.)

While the **Rover Group** is an organisation committed to improving its environmental performance, the level and style of environmental commitment amongst the workforce is different to that at The Body Shop - meaning different approaches to influencing culture are needed. At Rover's Longbridge site, an important part of the approach was linking into business objectives such as 'best in class'. (Further details can be found in GPCS 214, *Energy saved by raising employees' awareness*.)

As both organisations became the host companies for independently audited Good Practice Case Studies, it can be seen that different approaches to influencing culture can be used successfully to get results. For most organisations you can find underlying values that energy efficiency can 'relate' to. These values may be profitability, quality, etc. If your organisation has produced a vision statement, a mission statement and/or a set of goals and objectives these may be of use. Typically, they state what the organisation wants to become, not what it currently is. However, if they state where the organisation wants to go, they can provide you with useful information on the culture you are trying to influence.

JULIE knew, from talking to older colleagues, that there had been considerable change in her bank's culture and attitude over the last 20 years. This was due to increased high-street competition and the information technology 'revolution'. Conscious of this, the human resources department regularly carried out staff attitude surveys.

The surveys involved all employees every third year, with statistical samples taken in the other years. The last full survey had been carried out in 1995. Julie could not introduce energy efficiency into the 1996 sample survey as the questions had already been prepared. She talked with the survey team and they suggested that she send a postal questionnaire to another sample of employees. For this they selected three people from each of 50 branches.

The three selected were the branch manager, the newest member of the branch and the branch property liaison officer. Julie sought external assistance in writing the questionnaire but all other aspects were conducted internally. The results of the survey told her that most people did not see why the bank should be energy efficient. It also told her that previous activity in this area had been too technical in nature. Where branches were given energy information it had never been in financial terms. To take things forward, Julie, with help from human resources department, selected five 'typical' branches in which to develop new ideas.



She was able to use the questionnaire, its analysis, and her subsequent pilot scheme papers as evidence for her SVQ - other than taking extra copies and filing them, her evidence required no additional work.

BRIAN knew that the key driver in his organisation was profit, supported by quality and service. The company had experienced many change programmes, including Just in Time and Total Quality. When he asked about staff attitude surveys he was advised that the company did not need to waste time telling staff what they already knew. Brian had his own opinions, but did not feel confident in blindly applying them to his programme. He decided that, given the circumstances, the only way forward was to talk to a number of selected people. One of these was the senior shop steward. It was here that Brian had a stroke of luck. The shop steward had recently returned from a union training course which had covered energy and environmental issues. The view of the union was that to protect and enhance jobs it was necessary for a company to address these areas. Accordingly, the shop steward agreed that he would become involved in the programme and, through the site union newsletter, conduct a survey and awareness raising exercise. Given the large amount of energy-using equipment operated or controlled by union members, this provided access to information on the majority of the energy consumption on site. An added bonus for Brian was that the shop steward arranged for him to attend a weekend energy and environmental workshop run by the union. This gave him ten hours (one-third) of his annual CPD requirement.

6

PROMOTING ENERGY EFFICIENCY

UNIT E3	Promote energy efficiency
UNIT E5	Identify improvements to energy efficiency
UNIT E6	Provide advice and support for the development of energy efficient practices
UNIT E7	Provide advice and support for the development and implementation of systems to measure energy usage
UNIT E8	Provide advice and support for improving energy efficiency

The internal and external promotion of energy efficiency provides vital support and encouragement to an energy efficiency programme. The promotion of energy efficiency will use marketing and communications techniques. However, these skills may not be prevalent if technology underpins the many energy efficiency activities. Poor promotion may result in a lack of support and thence a less successful energy-saving campaign.

Promoting Energy Efficiency Internally

If you are not aware of a problem how can you be expected to do anything about it? People need to be aware of the cost of energy and the amount of energy used before they can be encouraged to save energy.

If done properly, promotion crosses with other activities. It can advise, it can support and it can influence culture. Although you need to understand communication techniques and some principles of marketing, much will come down to common sense and practicalities. For example, you may think an energy notice-board would be a good idea - however, this is not feasible if there is no suitable wall space available.

The traditional means of promoting energy efficiency are:

- posters;
- stickers;
- notice-boards;
- newsletters;
- competitions;
- training sessions.

Posters

Posters can be effective in getting a message across. They can also be very unimaginative. One company, Farley Health Products³, wanted something different in the way of posters, but did not think they had the art skills. Accordingly, they approached a local school and ran a poster competition - the results were impressive. The posters were laminated as the company is a food factory. This is an added bonus because the posters were protected from damage and prevented from looking old before their time. Do try to remember to rotate or replace the posters on a regular basis. In support of this, the more successful poster campaigns associated with quality and safety, work on the basis of regularly changing the posters.

Stickers

Stickers are, in effect, mini-posters. Like posters you need to consider their application. For example, a sticker saying 'turn down the thermostat' might be fine on a conventional heating thermostat, but what if it is stuck on a cold-room control? Some organisations have used temporary stickers to notify people of equipment wasting energy because it has been left on unnecessarily.

Notice-boards

Notice-boards are similar in effect to posters, except that, if managed properly they are changed regularly, which makes it worthwhile reading them. One organisation placed its energy notice-board around the annual holiday chart - that way it was sure to be seen. Another firm, without wall space, set the board up in a circulation area on an easel. Hampshire Chemical⁴ used the notice-board as the key communication method for its energy programme.

Newsletters

Newsletters have been used successfully by many organisations. Rover⁵ used a dedicated newsletter to launch its energy efficiency drive which led to savings of over £1 million. As Rover had 16,000 copies to produce, the generation of a newsletter was a significant project. However, it was supported by the team that produced the regular works' newsletter. Before starting a newsletter make sure you have got enough to say. Do not commit to a regular newsletter, or column, if you have not got the material. Consider innovation: one organisation has a single-sided newsletter that becomes a poster on the notice-board. Before writing a newsletter collect some samples - ICI⁶ based its newsletter on the Rover newsletter. The newsletter can function as external public relations as well as internal communications.

Competitions

Competitions normally add interest to any campaign. Prizes can often be sponsored by external organisations, utilities, etc. Competitions should not be too difficult - otherwise entries will be scarce; equally, they should not be too trivial. Typical competitions include poster design, slogans and quizzes. Prizes can range from a pencil to a small family car. When running a competition, consider why you are doing so: is it to get some ideas for posters, to bump-start a suggestion scheme or to raise the awareness of as many people as possible? Do you want to give one big prize or several small ones? Can you get press coverage of any prize giving?

Training Sessions

Training sessions can be very effective in promoting energy efficiency, provided they are correctly designed. Many organisations now include a small energy or environmental training slot on their induction courses. This is an ideal way of getting the message across to all newcomers. The scope for training the existing workforce is wide and varied. It can range from specific training for key people to 'saturation' awareness raising for everyone. GPG 85, *Energy management training*, is a useful document for anyone considering energy training activities.

³ For further details see GPCS 289, *Team-building and energy saving*.

⁴ For further details see GPCS 265, *Energy saving in a small company through management commitment & staff involvement*.

⁵ For further details see GPCS 214, *Energy saved by raising employees' awareness*.

⁶ For further details see GPCS 165, *Energy management and training on a multi-process site*.

Other Ideas

The approaches above are the traditional ones. It is always worth considering something different. One complaint often levelled against energy efficiency programmes is that they are boring - so anything that can increase the level of interest is worthwhile. Below are some ideas:

- Exhibitions: Can you organise an exhibition in the canteen? Get some outside organisations to support you, such as utility companies, pressure groups, etc.
- Web site: Is your organisation a 'connected' one? If so, what about creating an energy efficiency Web page?
- Good causes: Can you help a good cause through energy saving?

GPG 84, *Managing and motivating staff to save energy*, is a useful guide to what can make energy saving programmes work.

Promoting Energy Efficiency Externally

Some may question the value of external promotion. However, it has an important role to play. It can provide additional benefits for both the organisation and the individuals involved. For the organisation it can add to its image. It can also be part of the organisation's responsibility to the community. For individuals it can provide wider recognition. In addition, external promotion can make the energy programme more integral to the organisation. Having reported externally it is harder to drop the issue. External promotion also helps to meet the organisation's undertaking for the MACC campaign or to comply with the Eco-Management and Audit Scheme (EMAS) - to report changes in performance to employees and shareholders. The skills required in this area will include a knowledge of public relations techniques, as well as the ability to communicate effectively.

For external promotion you will need appropriate approvals that will involve you liaising with public relations and marketing departments. Make the most of these interactions - do not see them merely as gaining approval but look for building partnerships or getting 'added value' from these departments.

The issue of public environmental reporting is a growing one. Many organisations are now producing audited environmental reports for public issue. Including the energy efficiency programme in such reporting can be mutually beneficial.

JULIE was faced with the problem of promoting energy efficiency at a large number of sites spread across the country. She considered writing a regular article in *Current Account*, the monthly national newsletter of the bank. The editor would have welcomed her contribution but she had to commit to a half-page a month. The energy programme was at a stage where she was not confident that she could fill half a page a month with good quality material. Julie decided to talk to her 'focus branches' - the five selected in which to develop new ideas. They suggested that, as almost everyone had access to a PC or terminal, an 'electronic message' would be effective. She then spoke to the information technology department to see what was possible. The outcome was an e-mail-based questionnaire with 'spot prizes'. It was given the name *Energy Mail*. Each e-mail address selected was sent a simple, on-screen questionnaire. For the majority of questions all that was required was to click a box, with a free text area for a 'suggestion' question. The scheme was tested at the focus branches - it needed some modification, but, overall, was very successful. Following revision, the scheme was applied to groups of branches so that Julie was not overloaded with responses. As the bank also operates an intranet (an internal Internet), the development of a Web site is the next part of Julie's electronic promotional programme. The minutes of meetings and some of the responses formed part of Julie's portfolio of evidence for her SVQ.

BRIAN started by thinking about a poster campaign. Shortly after this he walked around the works and noticed that quality posters, health and safety posters, union posters along with many old posters already existed. He decided that he needed to be more innovative. What did he want to achieve? He wanted to get everyone thinking about energy. Later that week he attended an evening meeting of his professional institute where he talked over his problem with an engineer from another company. Brian was asked whether he had thought of using energy efficiency at home as the 'hook'. Given this food for thought, Brian had a look through his library of publications. Clearly, he could obtain numerous relevant leaflets from the DETR, but was that enough? After some thought he decided that he needed an event - something out of the ordinary. It was from this that 'Home Energy Week' was developed. This was held at the back of the works' canteen each lunch-time. Exhibitions were put on by the Local Energy Advice Centre, the local electricity company, some equipment suppliers and a local environmental interest group. Special discounts were arranged on time clocks, insulation and low-energy lamps - this was done by 'twisting the arm' of the company's suppliers.



The overall cost to Brian's company was negligible. The result was a 'buzz' about energy efficiency and an increased level of interest around the works.

7

IDENTIFYING AND EVALUATING OPPORTUNITIES

UNIT E4	Monitor and evaluate energy efficiency
UNIT E5	Identify improvements to energy efficiency
UNIT E6	Provide advice and support for the development of energy efficient practices
UNIT E7	Provide advice and support for the development and implementation of systems to measure energy usage
UNIT E8	Provide advice and support for improving energy efficiency

The Interaction of People and Technology

In most organisations, identifying opportunities for energy saving is a task that can be carried out by many people. It may be by people using their equipment or by using the facilities in the workplace. While it is possible for a dedicated energy manager to spend time looking for opportunities, the result of enabling others to do this will considerably increase the success of any energy programme. It must be realised that 'state-of-the art' technology can produce poor performance if it is not understood or not used properly by the people involved with it.

In total quality it is often said that the person doing the job has the answers to how to improve quality. The parallel for energy is that the people directly involved in using the energy can find out how to use less - provided that:

- they are encouraged to save energy;
- they want to do something about it;
- they know what to look for;
- they have the skills to do something about it;
- their actions are supported by the organisation's culture or policies.

Identification

How do you identify an opportunity for energy efficiency? There are two main paths - by chance and by investigation.

By chance: This covers what someone sees during the normal course of working. However, many of these opportunities are not discovered because people do not know how to look for energy efficiency opportunities. The solution here is relatively simple and is based on the fact that nearly everyone can identify waste. What you need to do is to get people to identify energy waste. Most people can identify a light left switched on that could be turned off. Fewer can spot the opportunity to change a lamp for a more energy-efficient type.

It could be argued that there are two types of 'by chance' opportunities. The first is 'observation' of existing practices - for example, plant left running; the second is the 'flyer', or wild idea. Usually the flyer does not stand up to examination - but sometimes it can be useful in breaking the mould.

Anyone with a positive attitude and an enquiring mind can identify opportunities by chance. Although you want to be the stimulus for finding these opportunities, you do not necessarily want to have all of them in your in-tray! You need to have a system in place that can handle them.

By investigation: Investigations by the energy manager may not be the only source of identified opportunities - investigations might also uncover opportunities for improvement. For the energy manager, investigation forms a key part of the job. This is a more proactive rather than reactive activity - it is going out to find improvement opportunities rather than waiting for them to turn up. Investigations might be part of an auditing or surveying process or they may result from reported anomalies - or perhaps to support planned changes in operation.

To summarise: in managing the process you need to have a system that encourages identification by chance. You need a strategy that enables investigations. You also need an approach, or system, that can utilise the opportunities found.

Evaluation

So, you have an opportunity - but how do you evaluate it? This depends to a great extent on what type of opportunity it is. For all types of opportunities the basic questions are:

- Is it practical?
- Is it appropriate?
- Is it viable?
- Are there any other considerations?

Is it Practical?

Some ideas are conceptually sound but impracticable. The idea is sound but the technology required makes it difficult to implement. This is sometimes the case with heat recovery; for example, the ideal design specifies a recovery coil that is physically too large to install. Practicality also covers changes in procedures. Melting metal overnight will reduce melting costs by using cheaper rate electricity, but can the factory operate in that way?

Is it Appropriate?

This often requires an understanding of the bigger picture. For example, re-lamping a factory is inappropriate if it is going to be relocated within two months. Similarly, combined heat and power (CHP) may be an appropriate solution for a different factory because the basics of energy management have been addressed at the same time as economic issues.

Is it Viable?

Will the opportunity identified save energy? There is the example of a heat recovery scheme that used more electricity for pumping than the value of the heat saved. If it saves energy does it save money, and if it saves money does it save enough to make it a good investment?

GPG 69, *Investment appraisal for industrial energy efficiency*, provides a comprehensive background for industrial projects, while GPG 165, *Financial aspects of energy management in buildings*, provides similar support for buildings projects. You should remember that even if the proposed project meets all the evaluation criteria, there may not be funds available for its implementation.

Other Considerations

Added-value should also be explored. Does the new opportunity offer any other business benefits? Conversely, will it have an adverse effect? Excessive turning off of lights can mean possible accidents. Energy efficiency is rarely the organisation's reason for existence and any energy management programme needs to take that into account.

When evaluating projects it is important to keep a record of what has been proposed and the evaluations carried out. This can speed up subsequent reviews and ensure the same ground is not covered twice. The records may also be valuable as evidence for VQs.

So far it has been assumed that opportunities are going to need approval or funding. In reality many will not. So how are these handled? One way is to think of your office as a hospital accident and emergency (A&E) department. In a modern A&E department there will be a triage nurse whose job is to assess the patients and decide priority. In this way a splinter in the finger waits and is dealt with by a nurse, while the cardiac arrest gets immediate treatment from a doctor. Coming back to energy management, what you need to have is a 'triage procedure'. In this way, the simple opportunities that can be immediately implemented are carried out, the impracticable are eliminated at an early stage and those requiring additional investigation are addressed by the appropriate person at an appropriate time.

This parallel bears consideration as, like the A&E department, you will not know exactly what will be coming in, people do not like to be kept waiting and you have limited resources which need to be maximised.

Classifying Opportunities

Typically, opportunities identified will fall into one of three broad categories:

- good housekeeping;
- procedures and methods;
- technology.

Good Housekeeping

It may not be exciting but good housekeeping can produce annual savings of 5%, or more, of the energy bill. It could be argued that housekeeping can be used as a measure of an organisation. Typically, the more successful organisations have better levels of housekeeping. It is all to do with doing things well. Good housekeeping needs to become habit - it needs to be part of the culture. Examples of bad housekeeping abound - lights left on, windows left open, leaking airlines and so on. One firm took photographs of bad housekeeping and exhibited them in a 'rogues' gallery'. This had quite a powerful effect - the level of housekeeping improved considerably.

Procedures and Methods

In many organisations - industrial, commercial and public - worthwhile results can be obtained from questioning working practices and procedures. The ability to do this without creating conflict or resistance is an essential skill. Due to the possible problems with interpersonal activities like this, many technically-based people choose not to become involved. However, it is an area worth pursuing. If working methods or procedures can be formally changed, a new work ethic can be introduced and sustained by this mechanism.

When questioning a procedure you will often ask, "Why do you do it like that?" The typical answer is usually, "Because we always have". This answer may be given for a number of reasons: the person does not know why, they feel threatened, they could not care less. When investigating procedures you need to take care not to appear critical or to demean the person you are questioning. If the same person was asked, "Could you think of a better way of doing this?", they may respond with a constructive answer. To change methods and procedures you need the involvement of those that use them. There may be a good reason for not doing it your way - if you handle the investigation properly you may be told why.

Formal, written procedures may require more effort to change, but the results will normally be more lasting. In industry, quality procedures can provide a fertile ground for energy management. If you can include good energy practice as part of a quality procedure it will have the enforcement of a quality system behind it. In a commercial organisation there may also be procedures and standing orders that can be changed.

When considering 'paper engineering' there are other opportunities. For example, energy efficiency clauses can be written into contracts, specifications, and so on.

Technology

The opportunities for energy efficiency through technology are many. Unlike the management issues of housekeeping, procedures and methods, technology has the added dimension of equipment suppliers. Much assistance can be found from suppliers of equipment. Many will carry out free surveys; some will even arrange for equipment on loan, but do remember they are trying to sell you something!

The EEBPP has produced a range of publications on the application of technology for energy efficiency. Unless you are right at the leading edge, the chances are someone has done it before you - so there is knowledge and experience to draw on. Technology options normally require more forward-planning. One way to get a project funded is to have a budget allocation made in advance of requesting the money. This may require you to think and plan two years ahead.

JULIE had a problem when the Web site following *Energy Mail* went live - she had a massive response. Unlike *Energy Mail* the access to the Web site was not controlled - so neither was the feedback. With over 50 responses a week she saw a major log-jam coming up. Fortunately, help was at hand. The bank had an association with the local university and was a regular source of vacation employment and projects for the students. So along came Mike for vacation work. Initially Mike needed some training on the software supporting the Web site and an understanding of energy management.



Julie organised software training and brought Mike up to speed on energy. She then left him for a while to tackle the problem. Mike's solution was as follows: first, he arranged for an acknowledgement message to be sent to all respondents; next, he worked on a classification system and electronically filed responses in appropriate categories. This enabled him to produce a listing of types of response and numbers of responses. Julie used this to plan her response. Where a number of responses were similar they were grouped and dealt with as such. Results of the analysis were posted on the Web site, thus providing further feedback.

Using some of the filing criteria that Mike developed, 'readers' were invited to classify their responses before submitting them. This pre-classification enabled Julie to deal more effectively with the incoming work load. As expected, the level of response declined after a while, but the initial work in categorising responses has provided a useful system for processing and recording suggestions from the 'readership'. Julie was able to gather evidence from this exercise that supported a number of areas for her SVQ.

BRIAN had decided that any simple housekeeping suggestions should be implemented as soon as possible. So he put forward a suggestion to senior management that individual departments, units and cells should implement simple housekeeping suggestions without referral. This was agreed. Although Brian felt that some ideas might not be ideal, it was worth the risk to get things moving. This had proved quite successful, so Brian, with a project-engineering background, looked around for some significant projects. He had heard about CHP, so he decided to investigate it further. One of his early actions was to attend a CIBSE seminar on the practical aspects of CHP. This opened his eyes to practical, technical and financial issues. He thought that CHP was practicable, appropriate and possibly viable - but funding was not available. Drawing on the seminar he decided to look at Equipment Supplier Financing. As a result he introduced small-scale CHP on site, obtained under an electricity purchase scheme.

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MEASURING PERFORMANCE

UNIT E4 Monitor and evaluate energy efficiency

UNIT E7 Provide advice and support for the development and implementation of systems to measure energy usage

UNIT E8 Provide advice and support for improving energy efficiency

Performance measurement is a key management activity. It shows how well you are doing, rate of progress, etc. While monitoring and targeting (M&T) is probably the best-known approach to energy performance measurement, it is only one of many. Selecting and effectively using the best approach for the organisation is a skill you need to develop. In recent times performance measurement has probably seen more change, as a result of external influences, than any other area of energy management. The most significant influence has been the introduction of 'intelligent' metering systems. This, added to the growth in information technology, means that a state-of-the-art system today could not have been envisaged ten years ago.

Devising a System to Measure Performance

Much of the guidance required for this area is provided by the EEBPP through its publications and events. In devising a system it is critical to look at the interaction between the system and the people involved. Ignoring the people elements will lead to a system that is only partially effective.

You may already have an M&T system or an energy accounting system. Does it do the job? Could it be improved? What information is actually needed to manage energy? These are all critical questions that need to be answered. If you still have the same system you had five years ago - and it has not been critically reviewed - this is something that warrants immediate attention.

GPG 231, *An introduction to information systems for energy management*, provides useful knowledge and background for this area. GPG 112, *Monitoring and Targeting in large companies*, and GPG 125, *Monitoring and Targeting in small and medium-sized companies*, will also be useful.

Enabling Others to Measure Performance

Too often, energy information systems are seen as the area of expertise of a single person. This often follows on from the idea that information is power. Alternatively, it can be that an individual becomes totally absorbed in performance analysis, allowing it to take up all of their time. Given the time constraints that are placed on many involved in energy management, enabling others to carry out performance measurement can considerably increase the scope and effectiveness of this activity. It can also lead to increased ownership.

Energy information is used to support energy management; it is a means to an end - not an end in itself. So if the intended results can be achieved with minimum input, this must be seen as desirable. At ICI (now Zeneca) Grangemouth⁷, each of the individual business units was encouraged to develop its own performance monitoring system. The reasoning was that as the units were very different, a single approach would not work, and that by developing independent systems there would be more ownership. To achieve this a certain amount of training was needed and some access to funding for meters. For many industrial processes it is worth involving the process operators in the performance measurement. As with ICI, they will probably need some training, but thereafter will be able to manage their own system.

If the site has a sophisticated, integrated system, others will be able to access information from individual systems and thus build up overall performance measurement. For commercial organisations performance measurement may form part of a broader facilities management or site billing/charging scheme. It may be that an accounting or finance function can provide a valuable resource in performance management - again they may need 'knowledge transfer' in order to contribute.

With the increasing adoption of Environmental Management Systems, more organisations will be looking to measure environmental performance, of which energy is a key element. So it could be that the environmental manager operates an energy performance measuring system.

Supporting Energy Information

An effective energy information system is not a stand-alone entity. It requires input from a number of sources. Measurement of energy alone does not define performance. It needs to be analysed against measures of activity, weather, etc. It also needs a wide field of dissemination. Accordingly, it is important to provide broad support to the energy information infrastructure.

Whether you operate the information system or others do, it will be in your interest to keep up to date with developments in energy information systems - both specific and general. For example, are you aware of the latest bureau-based energy monitoring contracts on offer? What impact does/will the Internet have?

If you have a number of disparate systems, you will need to provide co-ordination and focus. If separate, discrete systems are being used there is the potential for both duplication and omission.

You may need to influence others to ensure that adequate resources are allocated to energy information. These resources may be money, staffing and time.

⁷ For further details see GPCS 165, *Energy management and training on a multi-process site*.

JULIE carried out a review of energy information needs in the organisation. She concluded that energy information was needed for three key functions: branch accountability, energy purchasing and energy efficiency. She decided that branch accountability was about making sure the right cost centres were charged; information for purchasing was to ensure the 'best deal' in the competitive supply market; energy efficiency was about making the best use of the energy. Because Julie's energy management performance was measured in financial terms, it was clear that she needed to be involved with energy purchasing so that she could achieve cost savings. However, she also realised that if performance was only measured in absolute cost terms, then changes in operation, etc., could have an adverse effect on her personal performance rating. So, for personal and corporate reasons she needed to develop measures of performance that took account of operations and seasonal temperature fluctuations. She also decided that processing the invoices was an administrative function, and one to which she could not add value. The result of Julie's work was a data collection scheme based on invoices processed by administrative staff. In effect the scheme provided a 'feed' of relevant information to her energy management database and enabled a performance indicator system to be developed based on location and type of branch. The reports and procedures she wrote provided evidence for her SVQ.

BRIAN was in the position of receiving weekly meter readings from all meters. These were recorded in log books with weekly production figures and supplied as part of the standard production reports. However, although the information was available, it was not being used. He attended an EEBPP energy information workshop and decided that, as a first step, he should use a computer spreadsheet to analyse the data. The only problem was that he did not feel confident to do so. Although he had access to an integrated software package (word processor, spreadsheet and database) on his PC, he did not have much experience in using the applications. He felt that he should deal with this problem so he looked around for a suitable training course. He found one being run as an evening class at a local college - 'Developing Spreadsheet Solutions'. This course required him to bring along his problem and, over the course of three months, develop a solution to it. At the end of the three months Brian had developed an initial data analysis system and received a certificate of competence. Brian was then able to claim CPD hours for the training course.



REVIEWING PERFORMANCE

UNIT E1	Identify the scope for improvement in the way the organisation manages energy
UNIT E4	Monitor and evaluate energy efficiency
UNIT E5	Identify improvements to energy efficiency

Conducting the Review

Reviewing energy management performance is not just about performance indicators and specific energy consumption. There are also broader, people-related issues. From a training and personal development standpoint, part of the review may concern the level of skills acquisition of the workforce relevant to energy issues. There may also be issues concerning the level of investment in energy efficiency measures. There will certainly be other financial issues - the level of savings and the on-going costs of maintaining them.

It makes sense to carry out an annual energy performance review of the organisation - ideally timed to match the reporting period of the annual report and accounts. This will be of great assistance to organisations that are publicly reporting environmental performance.

The starting point will be establishing the scope of the review. You may be able to decide this alone, or it might require consultation and approval. The minimum scope will have to be an annual energy audit. At its most fundamental this will be a comparative statement of energy consumption and cost for the current year and previous year(s). This will answer the most basic questions such as, "Did we use more energy this year than last?" or, "How much more/less have we spent on energy?"

Building on this, the review should look at a range of performance issues. The next step would be comparative use of performance indicators internally and, where appropriate, externally.

Following on from this you need to look at some of the wider issues. Here the Standards can provide a useful tool. For effective energy management to take place all the Competences in the Standards need to be used by the organisation. Is this the case?

Much of the review process is retrospective. It is equally important to look forward - to make recommendations for action, based on the findings.

You will also need to consider how to review and report on a range of items using different types of measurement. For example, energy consumption will give a numerical result - but what about the level of energy awareness of the organisation's employees? Interestingly, most organisations will look to express qualitative measures in quantitative terms. For example, 84% of the workforce had seen the energy posters this year, compared to 81% last year, so the level of awareness has gone up by three percentage points.

You should remember that there is a personal angle to the review that needs to be addressed. If you are the full-time energy manager, then the review will be based on your activity and your 'value' to the organisation. This being the case, you may feel that it is ethical for the review to be audited, either internally or externally.

Communicating the Results

Communication is probably the most important of all the people skills. The finest work will amount to nothing if its results cannot be communicated.

An observed weakness of many involved in energy management is ineffective communications. In some ways this may be a result of the solitary nature of many energy management jobs. However, this solitariness should be seen as a driver for good communications, not an excuse for poor communications.

Energy management appears to have a relatively high 'boredom factor' amongst those not directly involved in it. This creates a key objective when communicating energy management - make it interesting!

So what are you looking for when communicating the results of the energy review? The communication has a number of objectives. Below, in no particular order, are some of them:

- informing people about what has been going on, why and what still needs to be done;
- gaining influence among energy users and decision-makers;
- initiating new energy programmes and ideas;
- securing commitment and resources;
- justifying the time and money spent on energy management.

You may decide that it is not possible to meet all these objectives with a single channel of communication - this will depend on the organisation and people involved. A 'multimedia' approach will probably be the most successful because it will allow various existing mechanisms to be used to meet individual objectives.

If your organisation has joined the MACC campaign, there will be a commitment in place to report performance changes to employees and shareholders. The best path to report to the shareholders (or stakeholders) may be the organisation's annual report and accounts. (This also holds for many public sector organisations.) So, what coverage can you get? This could range from a comment by the chief executive to a dedicated paragraph or whole section. Do you know how to become included? Consider who you should seek advice and support from.

When communicating you need to employ means that gain understanding and interest. For one local authority site it came as a surprise to its staff that it was one of the 5,000 largest electricity-using sites in the UK (that is, it was a 1 MW+ demand site).

If energy savings are profit, what equivalent sales would be needed to produce the same profit?

Charts and pictures can be useful for communication - provided people understand what you are trying to say. Just because the chart makes sense to you, does not mean it will make sense to others. Carry out an 'audience survey'. Many energy managers are surprised at the results. For example, a chart that you think shows poor performance, they think shows success; something you think is obvious, they may overlook completely.

JULIE took the approach that the annual report and accounts were seen as one of the most important annual documents produced.

Accordingly she set about getting energy performance included. Since the bank had signed up to the MACC campaign, the commitment to inform shareholders existed. Julie worked on the tack that the chief executive had made the commitment, so she would provide the information for him to publish. The process took longer than she initially thought it would because there was a requirement for all information published in the report and accounts to be approved. However, perseverance was rewarded with a small section on energy in the report and a mention of Julie by the chief executive. Julie then submitted a copy of the report and accounts as evidence for her SVQ.



BRIAN was able to carry out a thorough review of the company's energy performance following his development of an energy information system. However, what he was not sure about was how to communicate the results. He considered a dedicated energy report but was not convinced this would have the impact he wanted. Given his environmental role he also considered using the results as part of an environmental report - but again he was not convinced of its impact. Looking further afield he became aware of a company initiative called Vision 2020 - a task force that was looking to the future to set current company targets. He talked to this group about the energy and environmental performance the company would require in the year 2020. The outcome was the inclusion of energy performance as a Vision 2020 goal. This had the advantage of gaining Brian's area of interest a strategic part in the company's future planning.

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DEVELOPING OTHERS

UNIT E6	Provide advice and support for the development of energy efficient practices
UNIT E8	Provide advice and support for improving energy efficiency

You and your development are the emphasis of this Guide. However, if you are to develop fully then you must also look at the development of others.

Advising on Skills

A skilled workforce is a prerequisite for an effective organisation. A key task for those involved in the energy programme is to identify the skills that the organisation needs. The basis of the Standards is that they cover all the Competences that are required for best practice energy management. So, in simple terms the Standards need to be used as a 'template' to test the Competences of the organisation. For the small organisation the energy manager may be able to undertake this task on his/her own. However, in a larger organisation help will be needed.

If the organisation is an Investor in People, or a learning organisation, much of the infrastructure used to support these initiatives can be used to support the development of energy management skills. For example, training records and personal development plans may be on file; mechanisms may already be in place to assess and deliver training. What you need to do is make sure that you contribute to the overall development process and use what is in place to support energy management.

Before the Standards were developed it was difficult to advise on the skills required for energy management as there were no nationally accepted guidelines on what was required. The introduction of the Standards has now overcome this problem. Using a common framework you are now able to work with training and development professionals. If the organisation is in pursuit of world-class performance, or excellence, you can now advise on the skills required for best practice energy management.

Advising on Training

Training, or skill acquisition, is a critical part of any people-based approach to management. Having carried out a skills analysis of the organisation you will have identified its training needs. Some of these you may be able to meet yourself but you may need help, either internal or external, to satisfy others.

At a simple level you may be advising the training department on the training that you need. Often, training departments are not aware of the opportunities for energy training. Moving on, you may have identified broader training needs. You might not have the resources to meet these needs - in which case you may need an external training provider. This is where working with the training department is critical. First, they are used to contracting for training; second, they may be able to contribute to the funding for the training.

Within the EEBPP, competence-based training is regarded as a vitally important area. GPG 85, *Energy management training*, covers many of the aspects of training to improve energy efficiency.

JULIE realised that more people needed to be made aware of the basics of energy management. As the bank had a comprehensive training programme she tried to identify a role for energy training within it. It became apparent that the best opportunity was the induction training programme that all new staff had to complete. In her discussions with the training department she was asked if she would like to design and deliver the energy induction training. She wanted to but did not feel that she knew enough about training. This was resolved by the training department funding her on a competence-based trainers course. Following this she developed the induction package and went on to deliver it on a quarterly basis. The completion of the trainers course, with certification, and the evidence produced in developing the training all went into her portfolio of evidence for her SVQ.



BRIAN felt that all section leaders should have a minimum level of energy management knowledge. With the agreement and co-operation of the training department, he reviewed the level of supervisors' skills. This was done initially by researching training records and then by conducting interviews. However, it became clear that some supervisors had more influence over energy use than others, two examples being the heat treatment supervisor and the foundry supervisor. In such cases, specific training relevant to specific plant items was needed. Brian found that a number of equipment suppliers were prepared to run training courses on the efficient operation of their plant at reasonable cost. Brian's overall solution was to work towards a basic awareness course for supervisors and to arrange update training from equipment suppliers. He was pleased to find that by attending the plant-specific training from the suppliers he was able to claim CPD hours.

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FURTHER INFORMATION

Key Publications

The Standards for Managing Energy, available from MCI and The Institute of Energy.

Continuing Professional Development in Managing Energy, available from The Institute of Energy.

Contacts

Energy Efficiency Best Practice Programme

Enquiries Bureau
BRECSU
Building Research Establishment
Garston
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Tel 01923 664258
Fax 01923 664787
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Energy Efficiency Enquiries Bureau
ETSU
Harwell
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Tel 01235 436747
Fax 01235 433066
E-mail etsuenq@aeat.co.uk

Other contacts

*National delivery centre
for Energy Management N/SVQs*

The Institute of Energy
18 Devonshire Street
London W1N 2AU
Tel 0171 580 7124
Fax 0171 580 4420
E-mail info@ioe.org.uk
Web site www.instenergy.org.uk

*Lead body for
managing Energy Standards*

MCI
Russell Square House
Russell Square
London WC1B 5BZ
Tel 0171 872 9000
Fax 0171 872 9099
E-mail nfmed_mci@compuserve.com
Web site www.bbi.co.uk/mci

*Awarding body for NVQs in Energy
Management for England,
Wales and Northern Ireland*

University of Oxford Delegacy for
Local Examinations
Ewert House
Ewert Place
Summertown
Oxford OX2 7BZ
Tel 01865 515638
Fax 01865 512304

*Awarding body for Scottish
Vocational Qualifications
(SVQs) in Energy Management*

Scottish Qualifications Authority
Hannover House
24 Douglas Street
Glasgow G2 7NQ
Tel 0141 242 2214
Fax 0141 242 2244



APPENDIX

The Standards for Managing Energy

UNIT E1	Identify the scope for improvement in the way the organisation manages energy
ELEMENT E1.1	Audit the organisation's performance in the way it manages energy
ELEMENT E1.2	Identify improvements to the way the organisation manages energy
UNIT E2	Provide advice on the development and implementation of energy policies
ELEMENT E2.1	Provide advice on the development of policies for the use of energy
ELEMENT E2.2	Recommend strategies to implement energy policies
UNIT E3	Promote energy efficiency
ELEMENT E3.1	Promote energy efficiency throughout the organisation
ELEMENT E3.2	Promote the organisation's achievements in energy efficiency
UNIT E4	Monitor and evaluate energy efficiency
ELEMENT E4.1	Establish systems and processes to monitor and evaluate energy usage
ELEMENT E4.2	Obtain, analyse and record information on energy efficiency performance
ELEMENT E4.3	Evaluate the organisation's energy efficiency performance
UNIT E5	Identify improvements to energy efficiency
ELEMENT E5.1	Identify opportunities to improve energy efficiency
ELEMENT E5.2	Recommend improvements to energy efficiency
UNIT E6	Provide advice and support for the development of energy efficient practices
ELEMENT E6.1	Support the development of a culture of energy awareness
ELEMENT E6.2	Provide advice and support for energy efficient practices

UNIT E7	Provide advice and support for the development and implementation of systems to measure energy usage
ELEMENT E7.1	Provide support for the development of systems to measure energy usage
ELEMENT E7.2	Provide support for the collection, analysis and recording of information on energy usage
ELEMENT E7.3	Provide advice on trends and developments in energy usage
UNIT E8	Provide advice and support for improving energy efficiency
ELEMENT E8.1	Encourage involvement in energy efficiency activities
ELEMENT E8.2	Provide advice on the competences needed to use energy efficiently
ELEMENT E8.3	Provide advice on the training needed to use energy efficiently

The Standards for Managing Energy, the national benchmark for energy management, are intended for a wide range of applications, from defining the role of a new energy manager, to reviewing an existing job function. The most specific use of the Standards is the provision of a framework for Vocational Qualifications, and they are structured to that end.

Many people using the Standards for the first time may have limited knowledge of some, or perhaps all, aspects of the profession they describe. Supporting information or documentation will therefore be of assistance in developing tasks or structuring action plans. The matrix shown below provides links between each Unit of the Standards and recommended Energy Efficiency Best Practice Programme (EEBPP) publications. These linkages have been developed as a result of a comprehensive review of all the publications and are categorised as follows:

C = Core material: considered to be fundamental to the Unit in question

G = General publications: provide background supporting material

S = Sector-specific publications: likely to be of interest only to the sectors they address.

This categorisation should not be regarded as absolute or prescriptive. It is recommended that people using the Standards also explore documentation recommended for other Units related to those under consideration. Indeed, a keyword search of *all* EEBPP publications can be performed with relative ease through a recently published database available from ETSU or BRECSU.

In the context of pursuing Vocational Qualifications (NVQ/SVQ), **candidates** may find these linkages useful when seeking information on the scope of their activities within the wider national context which EEBPP material reflects. **Assessors** may find such material of value in ensuring adherence to the national standard when judging candidates' material. Finally, **employers**, or others not directly involved with energy management, may obtain an improved understanding of the subject and, for example, discover where it may apply to their staff or colleagues.

SELECTING THE MOST APPROPRIATE UNIT

- | | |
|---|--|
| E1 Identify the scope for improvement in the way the organisation manages energy. | E5 Identify improvements to energy efficiency. |
| E2 Provide advice on the development and implementation of energy policies. | E6 Provide advice and support for the development of energy efficient practices. |
| E3 Promote energy efficiency. | E7 Provide advice and support for the development and implementation of systems to measure energy usage. |
| E4 Monitor and evaluate energy efficiency. | E8 Provide advice and support for improving energy efficiency. |

E1	E2	E3	E4	E5	E6	E7	E8	Publication title	Publication reference
	S	S			S	S	S	Introduction to energy efficiency in schools	IEES
S				S				Energy efficiency in the laundry industry	ECG049
			C			C		Waste avoidance methods	FEB013
							G	Interactive multimedia training package for stock refining	FPP060
	G							Contract energy management guide for building managers and occupiers	GIL008
C	C							Organisational aspects of energy management	GIR012
			G			G		A review of the Monitoring and Targeting programme in the UK manufacturing industry	GIR019
			G			G		Energy Monitoring and Target setting	GPCS034
							G	Energy management training enables savings in small firms	GPCS071
				S	S			A teacher as the focus for energy efficiency	GPCS100
					G		G	Energy management training programme	GPCS111
			G					Energy Monitoring and Target setting at a dairy	GPCS138
			S			S		Monitoring and Targeting at a general rubber goods site	GPCS142
	G		G		G	G	G	Energy management	GPCS148
	G							Energy management - Manchester University	GPCS150
G	G		G	C	G	G	G	A co-ordinated approach to energy management	GPCS163
					G		G	Energy management and training on a multi-process site	GPCS165
							G	Post-graduate training for improved energy management	GPCS178
			G					Energy and utility management at the Royal Mint	GPCS179
		G			G			Energy efficiency motivation campaign in a multi-site organisation	GPCS182
	G	G	S	G	G	S	S	Energy savings in NHS hospitals	GPCS202
			G			G		Monitoring and Targeting in a multi-site company	GPCS207
	G			G				A corporate policy on combined heat and power	GPCS210

Energy Efficiency Best Practice Programme Publications

E1	E2	E3	E4	E5	E6	E7	E8	Publication title	Publication reference
		G			G		G	Quality circles and energy	GPCS211
		G			G	G	G	Energy saved by raising employees' awareness	GPCS214
			S			S		Monitoring and Targeting in a hospital laundry	GPCS221
	G							Energy efficiency and 'World Class Performance'	GPCS224
			S			S		Energy management at a red meat plant	GPCS225
G	G	G	G	G	G	G	G	Energy savings by Total Quality Management techniques	GPCS226
							G	Open learning courses - the tangible benefits	GPCS227
					G		G	Boiler operator training - a key to an energy management programme	GPCS234
	G	G	G		G	G		Energy management in the pharmaceutical industry	GPCS247
			S	G	S	S		Energy management in a small plastic injection moulding plant	GPCS252
G	G	G	G	G	G		G	Implementing an energy management programme in a textile finishing company	GPCS254
	G	G						A corporate approach to energy and the environment	GPCS264
		G			G	G	G	Energy savings in a small company through management commitment and staff involvement	GPCS265
			S			S		Monitoring and Targeting at a brewery	GPCS273
	G						G	Energy savings through Quality Management	GPCS288
		G			G		G	Team-building and energy saving	GPCS289
			G			G		Energy monitoring on large steel reheating furnaces	GPCS321
		G			G		G	Energy management - staff awareness	GPCS324
		G			G	G	G	Energy management - training and motivation.	GPCS325
	G		G		G	G		Adopting a corporate approach to energy management	GPCS326
		G			G		G	Energy management - staff awareness and motivation	GPCS327
	G	G	G	G	G		G	Effective energy efficiency through Total Quality Management	GPCS328
	C			G				Energy management within a strategic framework	GPCS331
	G		G	G		G		Corporate commitment to saving energy at a small site	GPCS332
			S		S	S	S	Fuel management for transport operators	GPCS342
			G		G	G		Energy management techniques in the pottery industry	GPCS345
				G				Energy audit and survey guide for building managers and engineers	GPG027
					S			Good housekeeping in schools - a guide for school staff, governors and pupils	GPG029
	S	S			S		S	Reduction of energy waste in hospitals by good housekeeping: guide for financial managers	GPG051
S	S							Electricity savings in hospitals. Guide for senior financial managers	GPG053
								Investment appraisal for industrial energy efficiency	GPG069
			S			S		Monitoring and Targeting in the fabric care industry	GPG072
	C	C			C		C	Managing and motivating staff to save energy	GPG084
		C			C		C	Energy management training	GPG085
			C			C		Monitoring and Targeting in large companies	GPG112
			C			C		Monitoring and Targeting in small and medium-sized companies	GPG125
								Financial aspects of energy management in buildings	GPG165
C	C						C	Putting energy into Total Quality, a guide for energy managers	GPG169
	C							Developing an effective energy policy	GPG186
	C				C			A strategic approach to energy and environmental management	GPG200
			C			C		Introducing information systems for energy management	GPG231
			S			S		Computer-based monitoring and targeting on a hot rolling mill	NFPF055
							G	Training in energy efficiency as part of Continuing Professional Development (CPD)	NPPI089

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Further information

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Energy Consumption Guides: compare energy use in specific processes, operations, plant and building types.

Good Practice: promotes proven energy efficient techniques through Guides and Case Studies.

New Practice: monitors first commercial applications of new energy efficiency measures.

Future Practice: reports on joint R & D ventures into new energy efficiency measures.

General Information: describes concepts and approaches yet to be fully established as good practice.

Fuel Efficiency Booklets: give detailed information on specific technologies and techniques.

Energy Efficiency in Buildings: helps new energy managers understand the use and costs of heating, lighting etc.